REMARKS

Claims 1-21 are pending in the present application. In response to the Election of Species Requirement of June 8, 2006, Applicants elected species d with traverse, upon which claims 1, 2, 5, 19 and 21 were readable. Per the telephonic conversation with the Examiner of August 13, 2007, since an RCE is being filed herewith, Applicants hereby elect a different species, species a. Claims 1, 2, 3, 6, 19, 20, 22 and 23 are readable upon species a. Claims 1 and 19 have been amended to recite that the non-Newtonian fluid is a shear thickening fluid or a Bingham fluid. Support for this amendment can be found in original claims 6 and 7. Claim 8 has been amended to depend from claim 1.

Summary of Independent Claims

The subject matter of claims 1 and 19 is directed to devices and methods for delivering a therapeutic agent to a target site in the body. To ensure retention of the therapeutic in the target site yet allow easy passage of the therapeutic through a delivery device, a shear thickening fluid or Bingham fluid having therapeutic properties is loaded in the delivery device and the fluid is exposed to a viscosity adjuster. The viscosity adjuster affects the shear stress or shear rate of the fluid to change the viscosity of the fluid. The viscosity of a shear thickening fluid, a specific type of non-Newtonian fluid, increases as the shear stress or shear rate in the shear thickening fluid increases.

Accordingly, if a shear thickening fluid having therapeutic properties is delivered via a delivery device, the solid content of the fluid is such that the fluid easily passes through the delivery device. Prior to exiting the device and at an appropriate distance proximal to the site of injection in the target site, the fluid is exposed to the viscosity adjuster in the channel of the delivery device. This increases the shear stress or shear rate in the fluid resulting in an increase in the viscosity of the fluid. The fluid is then injected into a target site, where, because of the increased viscosity of the fluid, retention of the therapeutic is enhanced. (See paragraph 9).

Rejection of Claims Under 35 U.S.C. 102

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Claims 1, 2, 5, 19 and 21 stand rejected under 35 U.S.C. 102(b) as being allegedly anticipated by U.S. Patent No. 6,132,405 to Nilsson ("Nilsson"). Applicants traverse this rejection.

As an initial matter, the Examiner appears to be under the impression that claim 1 recites a catheter that is "capable" of delivering a non-Newtonian fluid since the Examiner asserts that the catheter of Nilsson is capable of delivering a non-Newtonian fluid. Claim 1 (and 19) positively recite a non-Newtonian fluid (specifically a shear thickening or Bingham fluid) in the channel of the delivery device. Therefore, at the least, Nilsson must describe more than a catheter capable of delivering a non-Newtonian fluid but rather a non-Newtonian fluid actually in the channel of the catheter. The Examiner states that Nilsson describes "a catheter and method that is used with non-Newtonian fluids such as blood, urine or dialysis fluid." However, the Examiner has not shown where urine or blood is contained within a channel of the catheter of Nilsson. Claims 1 and 19 require that the non-Newtonian fluid (specifically the shear thickening or Bingham fluid) is contained within the device.

Secondly, the Examiner has not established that "blood, urine, or a dialysis fluid" act as a non-Newtonian fluid in the context of Nilsson. The Examiner cites to wikipedia.com, which allegedly lists "blood, milk, concentrated dissolved sugars/salts in water, colloids, clay, gelatin," as examples of non-Newtonian fluids. However, a review of wikipedia.com on August 13, 2007 does not reveal such a listing and therefore the Examiner is asked to clarify.

Notwithstanding the above, Nilsson does not describe a shear thickening fluid contained within the channel of the catheter of Nilsson, as is required by claims 1 and 19. In fact, the embodiments of Nilsson describe "restrictions" (reference numbers 26, 41 and 42) in areas other than the distal end of the catheter (see Figures 3 and 7). As such, the presence of such restrictions in portions of the catheter other than the distal end can increase the shear stress or shear rate in a shear thickening fluid resulting in an increase in the viscosity of the fluid (see above description of characteristics of a shear thickening fluid). Such an increased viscosity can make passage of the shear thickening fluid through the catheter difficult. As stated above, claims 1 and 19 are directed to devices and methods that ensure retention of therapeutic in the target site yet allow easy passage

of the therapeutic through a delivery device. With the catheter configurations of Nilsson, such easy passage of the therapeutic agent through the catheter is thwarted. Furthermore, there is no other reason to use a shear thickening or Bingham fluid with the device of Nilsson. For at least these reasons, even if Nilsson describes a certain type of non-Newtonian fluid (a point Applicants are not conceding), Nilsson does not describe a shear thickening fluid or a Bingham fluid and there is no reason to use the device of Nilsson with a shear thickening or Bingham fluid.

CONCLUSION

It is respectfully submitted that the present application is now in condition for allowance, which action is respectfully requested. The Examiner is invited to contact Applicants' representative to discuss any issue that would expedite allowance of the subject application.

Any fees for extension(s) of time or additional fees required in connection with the filing of this response, are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is authorized to charge any such required fees or to credit any overpayment to Kenyon & Kenyon's Deposit Account No. 11-0600.

Respectfully submitted,

KENYON & KENYON LLP

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By: Zeba Ali
(Reg. No. 51,392)

1500 K Street, N.W.
Suite 700
Washington, D.C. 20005
Tel: (202) 220-4200
Fax: (202) 220-4201

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